

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application : Linden, et al. Confirmation No. 3797

Serial No. : 10/501,225

Filed : February 4, 2005

Art Unit : 1715

Examiner : Lightfoot, Elena Tsoy

For : **METHOD FOR DEPOSITING INORGANIC/ORGANIC FILMS**

Mail Stop Reply Brief  
Commissioner for Patents  
P.O. Box 1450  
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**REPLY BRIEF**

Sir:

This Reply Brief is filed in response to the Examiner's Answer issued April 6, 2011 in connection with the above- referenced application. Thus, this Reply Brief is timely filed.

**Remarks** begin on page 2 of this paper.

**REMARKS**

In the Examiner's Answer issued on April 6, 2011, the Examiner has taken the position that the so-called heat-radiation layer disclosed by Yamada corresponds to the presently claimed hybrid coating.

Accordingly, the only part of Yamada that forms the basis of the rejection is to be found in column 11, lines 16-50, where Yamada describes that the heat-radiation layer consists of a carbon-based material (the organic component) and metallic particles (the inorganic component, i.e. the nanoparticles). Indeed, Yamada teaches that this heat-radiation layer can be deposited using co-vapor disposition or a combination of plasma CVD of the organic material and vapor deposition of the metal. However, as concluded by the Examiner in the Examiner's Answer (*e.g.*, end of page 4 and beginning page 5): "Yamada fails to teach that the precursors for organic and inorganic components are activated in two or more separated plasma sources".

The Examiner then turns to Saito to complement Yamada with this aspect of the invention.

But, contrary to what the Examiner states, Saito fails as well to disclose the presently claimed subject matter. Saito describes that a gas difficult to activate is pre-activated in a separate activation chamber, that the pre-activated gas is mixed with a gas easy to activate and that the mixture is activated in a reaction chamber; meaning that the complete activation of the two gases is carried out simultaneously and can't be controlled independently.

Thus Saito requires a first gas that is difficult to activate and a second gas that is easy to activate. On the contrary, in the presently claimed invention, both precursors are activated independently from each other. Furthermore, the present invention is not restricted to gases difficult and easy to activate. As both gases in the presently claimed invention are activated

independently, not only gasses of different type but also of the same type can be activated (*e.g.*, specification page 10, lines 15-19). This, of course confers the advantage of using any desired gaseous mixture.

Another advantage conferred by the presently claimed invention in providing the use of two separate plasma sources, is that it enables full control of structure or porosity of the coating (*e.g.*, page 15, lines 12-29 and page 16, lines 1-5, of the present application). This property is not mentioned nor appears evident from the teaching of the cited references.

Further, the Examiner deviated from the initial opinion that the hybrid coating of the present invention corresponds to the heat-radiation layer in Yamada (*e.g.*, page 7 of the Examiner's Answer). The Examiner refers to data disclosed by Yamada for the deposition of the recording layer. But with respect to the temperature requirement of the heat-radiation layer, Yamada is completely silent.

Thus, for all of the reasons discussed above, it is respectfully submitted that the Examiner's rejection is untenable and should be reversed.

No extra fee is believed due. If there is any additional fee, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 02-2275.

An early and favorable action on the merits is earnestly solicited

Respectfully submitted

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